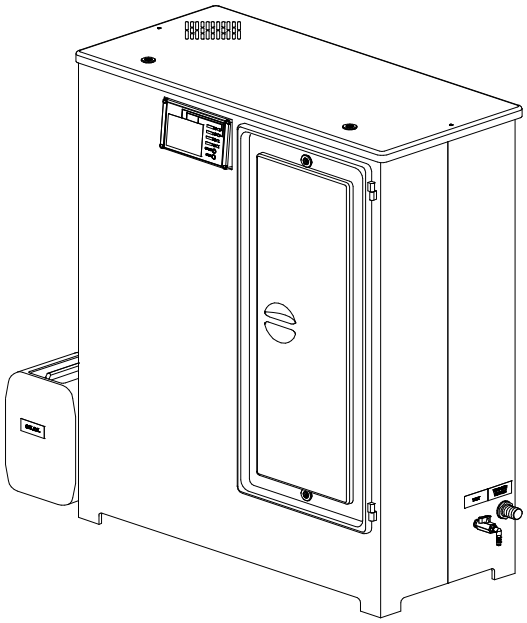
EN - english

Instructions for installation and operation

Emulsion splitting plant

BEKOSPLIT® 11 (BS 11)



03-035

Dear customer,

Thank you for deciding in favour of the BEKOSPLIT® emulsion splitting system. The operating instructions describe the BEKOSPLIT® splitting unit including a preseparation container with oil separation. Please read these installation and operating instructions carefully before mounting and starting up the system, and follow our directions. Perfect functioning, and thus reliable wastewater processing, can only be guaranteed when the provisions and notes stipulated hereinoff are strictly adhered to.

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1 Type plate

The type plate is at the housing. It includes all the important data of the BEKOSPLIT® which must be communicated to the manufacturer or supplier upon request.

Never remove, damage or obliterate the type plate!

	BEKOSPLIT® 11	
Code	Code	2002566 ES110E005
Serial number	Serien Nummer Serial Number	11341590 (example)
Year of construction	Baujahr Year of construction	2011 (example)
Max. plant capacity	Max. Anlagenleistung Max. plant capacity	3.3 gal/h
Max. compressor performance	Max. Verdichterleistung Max. compressor performance	7.4 ft³/m
Reference turbidity	Referenztrübung Reference turbidity	20 mg/l (example)
Supply voltage	Netzspannung Supply voltage	100... 240 VAC
Frequency	Frequenz Frequency	50 – 60 Hz
Power supply output	Netzteilausgang Power supply output	24 VDC
Max. power input	Max. Leistungsaufnahme Max. power input	< 100 VA
Ambient temperature	Umgebungstemperatur Ambient temperature	+41 ... +122 °F
Weight	Gewicht Weight	approx. 105 lb
	BEKO TECHNOLOGIES GMBH http://www.beko-technologies.com Made in Germany	

2 Pictograms and symbols

General danger symbol (danger, warning, caution)

General danger symbol (danger, warning, caution) for compressed air and plant components under pressure

General danger symbol (danger, warning, caution) for supply voltage and supply voltage-carrying plant components

General danger symbol (danger, warning, caution) for explosive substances

No smoking

General information

Observe the installation and operating instructions

Use eye protection

Wear light breathing protection

Use protective gloves

Special maintenance instructions

3 Signal words in accordance with ISO 3864 and ANSI Z 535

Danger!	Imminent hazard Consequences of non-observance: serious injury or death
Warning!	Potential hazard Consequences of non-observance: possible serious injury or death
Caution!	Imminent hazard Consequences of non-observance: possible injury or property damage
Notice!	Potential hazard Consequences of non-observance: possible injury or property damage
Important!	Additional advice, info, hints Consequences of non-observance: disadvantages during operation and maintenance, no danger

4 General advice

Please check whether or not these instructions correspond to the device type.

Adhere to all advice given in these operating instructions. They include essential information which must be observed during the installation, operation and maintenance. Therefore it is imperative for the service technician and the responsible operator / technical staff to read these operating instructions prior to installation, start-up and maintenance.

The operating instructions must be accessible at any time at the place of application of the BEKOSPLIT® 11 .

In addition to these operating instructions, local or national regulations must be complied with, if necessary.

Make sure that the BEKOSPLIT® 11 is operated only within the permissible limit values indicated on the type plate. Any deviation involves a risk for persons and materials, and may result in malfunction and service failures.

If you have any queries regarding these installation- and operating instructions, please contact BEKO TECHNOLOGIES GMBH.

For safe operation, the plant must only be operated and maintained in accordance with the indications in these operating instructions. In addition, the national and operational statutory provisions and safety regulations, as well as the accident prevention regulations required for the respective case of application, need to be observed during the employment. This applies accordingly when accessories are used.

Non-observance of the installation and operating instructions involves risks for persons, systems, and the environment.

As regards the electrical installation, observe all regulations in force (e.g. VDE 0100 / IEC 60364)

Electrical works must only be carried out by authorised and skilled personnel!

System performance tests, installation, setting and maintenance measures must only be carried out by authorised and skilled personnel. Only instructed personnel is authorised to carry out settings during the operation.

The dosage setting of the BEKOSPLIT® 11 must, as a matter of principle, only be implemented by authorised and skilled personnel.

Use original BEKO TECHNOLOGIES reaction splitting agents and filter only! (Not included in the scope of delivery)

Check the outflowing cleaned water once a week by means of a reference turbidity!

Do not fill any foreign liquid into the preseparation container of the BEKOSPLIT® 11, as this may impair the splitting process!

Ensure that the BEKOSPLIT® 11 and the preseparation tank are completely empty before transport.

Due to continuous technical development, we reserve the right to implement necessary modifications without prior notice.

If you have any queries regarding these instructions, please contact
BEKO TECHNOLOGIES GMBH.

4.1 Safety instructions

4.2 General safety instructions

DANGER!

Supply voltage!

The operation and maintenance of electrically-powered plants and devices must only be undertaken by correspondingly qualified and authorised personnel. Prior to carrying out maintenance works, no matter which type, the following notes must be considered:

Measures:

- Make sure that no parts of the plant are energised, and that they cannot be connected with the electric supply mains during servicing.
- The device must not be started up if the power lines are damaged.
- The BEKOSPLIT® 11 must not be operated if parts of the housing were removed.

DANGER!

Missing earth connection!

When the earth connection (protective earth) is missing, there is the risk in the event of malfunction, that contactable, conductive components my carry supply voltage. Touching of such parts leads to an electric shock with injury and death.

Measures:

- As regards the electrical installation, observe all regulations in force (e.g. VDE 0100 / IEC 60364).
- **Maintenance works must only be carried out when the system is de-energised.**
- **It is imperative to connect the plant and the device to earth or to connect the protective conductor according to the regulations.**
- Any electrical works must only be carried out by authorised and skilled personnel.

Warning!

Unauthorised interventions!

Unauthorised interventions may endanger persons and plants and lead to malfunction.

Any modification of the plant or of the function parameters that has not been checked and approved by the manufacturer is potentially dangerous.

Measures:

- System performance tests, installation, setting and maintenance measures must only be carried out by authorised and skilled personnel.
- The dosage setting of the BEKOSPLIT® 11 must, as a matter of principle, only be implemented by authorised and skilled personnel.

4.3 Special safety instructions

NOTE!

Ambient conditions!

In the event of external overheating, parts of the plant can be destroyed.

Observe the permissible storage and transport temperature, as well as the permissible operating and ambient temperature.

Protect the plant against direct sunlight and heat.

Do not install the plant in areas where frost is likely to occur or outdoors!

4.4 Process-depending dangers

CAUTION!

Harmful hydrocarbons!

Harmful hydrocarbons may exist in the ductwork.

For example:

- Hydrocarbons and other particles which are toxic or dangerous to health in another manner.
- Particles which are contained in high-temperature gases.

Measures:

- As long as the process conditions are not absolutely safe, corresponding precautions, such as the use of a respiratory mask or the purging/detoxification of the ductwork, need to be taken prior to any intervention into the ductwork for maintenance or installation purposes.
- Ensure that the duct system is pressureless before any installation or dismantling works are carried out. In the event that you are not sure in some cases, please check with your local safety representative and/or read the local safety regulations.

CAUTION!

Harmful dusts!

The used splitting agent can rise when being filled into the plant and cause dust which can be irritant and dangerous to health.

Measures:

- It is recommended to use light breathing protection, eye protection and protective gloves for any works with the splitting agent.

CAUTION!

Release of dangerous substances!

The BEKOSPLIT® 11 must only be operated with condensate from compressed air that is free from aggressive, corrosive, caustic, toxic, flammable and fire-accelerating constituents.

CAUTION!

Filling-in inadmissible liquids!

General advice

Inadmissible liquids can lead to health hazards and poisoning.

The BEKOSPLIT® 11is only intended for condensate from compressed-air compressors. Other liquids can be aggressive, corrosive, caustic, toxic, or flammable, and contain fire-accelerating constituents. In addition, harmful gases may be released.

CAUTION!

Flapping hoses!

Hoses which are not fixed and secured can make strong flapping movements in the event of compressed-air surges and can, therefore, lead to injuries.

WARNING!

Dust explosion through splitting agents!

Dispersed dust particles of the splitting agents can form explosive mixtures which, in the event of ignition, can lead to severe injury and death.

Measures:

- During all works with splitting agents, it is imperative to avoid dispersion!
- Smoking and open fire prohibited!

5 Proper use

- The emulsion splitting plant serves to process emulsified compressor condensates in accordance with the legal stipulations.
- The operation of the emulsion splitting plant is subject to approval! Use the enclosed manual "Application/approval procedure" for the application.
- Do not fill any foreign liquid into the preseparation container as this may impair the splitting process!
- Use original BEKO TECHNOLOGIES reaction splitting agents and filter only! (Not included in the scope of delivery).
- Do not exceed the performance data! (see Chapter "Technical data"). During a short-term overload/malfunction, the accumulated condensate is buffered in the preseparation container.
- Protect the plant against direct sunlight and heat.
- Do not install the plant in places where frost is likely to occur or outdoors!
- Special applications are possible. It is imperative to check the application beforehand with BEKO TECHNOLOGIES.
- The BEKOSPLIT® 11 must not be installed in hazardous areas, and must not be charged with explosive media.

Warning!

Employment to prevent dangerous conditions!

The unverified and sole employment of the BEKOSPLIT® 11to prevent dangerous conditions at machines and plants can lead to exactly these conditions and cause injury and damage to plants and the environment.

CAUTION!

Improper use!

The BEKOSPLIT® devices offer state-of-the-art technology and are operationally safe.

Residual risks may emanate from the devices when improperly employed and operated by untrained personnel.

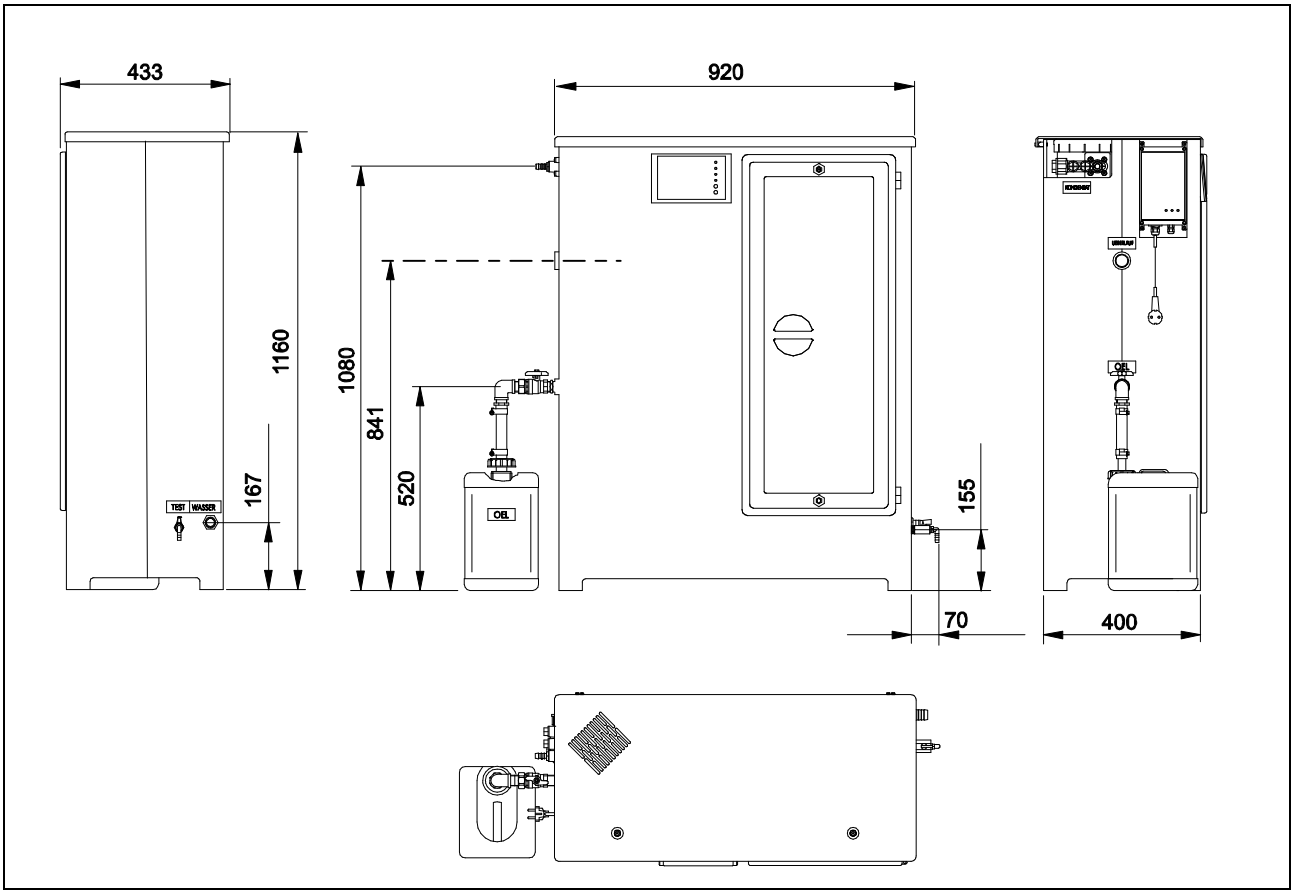
6 Exclusion from the scope of application

- The BEKOSPLIT 11 is **not** suitable for employment in ex-areas.
- The BEKOSPLIT 11 must not be exposed to long-term direct sunlight or thermal radiation.
- The BEKOSPLIT 11 must not be installed or operated in areas with an aggressive atmosphere.
- The BEKOSPLIT 11 is not heatable and, therefore, is not suitable for employment in areas where frost is likely to occur.
- The BEKOSPLIT 11 is not suitable for strongly alkaline and caustic liquids.

7 Technical data

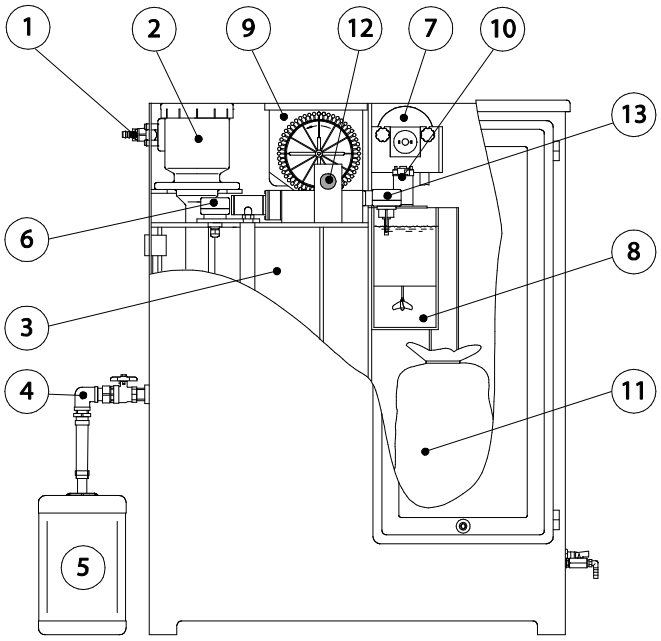
Max. throughput capacity	3.3 gal/h
Max. compressor performance	7.4 ft³/m
Filling volume reactor	2.2 gal
Filling volume preseparation container	15.4 gal
Filling volume splitting-agent container	0.5 gal
Filling volume oil receiver	2.2 gal
Filling volume filter bag	5.5 gal
Wet weight filter bag	approx. 33 to 40 lb
Water outlet (hose)	G1" (d = 25 mm) internal
Empty weight	approx. 105 lb
Min./max. storage, transport, media and ambient temperature	+41 ... +122 °F
Supply voltage	100... 240 VAC
Output voltage power supply unit	24 VDC
Max. power consumption	< 100 VA
Relay contact rating	> 5 VDC / > 10 mA < 50 VAC/DC / < 5A / < 150 VA/W
Fusing power supply unit	3.15 A / T (slow)
Recommended circuit breaker (mains supply)	min. 6 A / C-characteristic
Protection class box power supply unit	IP 54

8 Dimension drawing



The dimensions are not warranted characteristics and are subject to tolerance in accordance with DIN ISO 2768-m.

9 Function



The oil-containing condensate can be supplied under pressure to the BEKOSPLIT (1). The overpressure is relieved in the patented pressure relief chamber (2) without causing turbulences in the preseparation container (3).

Via the oil outlet (4), the oil that settles at the surface in the course of time is automatically led into the spillproof oil receiver (5).

The filling-level monitoring of the preseparation container, and the START signal transmission is implemented by means of a capacitive START sensor (6).

Via a flexible tube pump (7), the condensate is sucked in and supplied into the reactor (8).

Reaction release agent is added in a time-controlled manner via the dosing unit (9) and distributed by the agitator (10). During the dosing process, no condensate is supplied into the reactor.

The oil and dirt constituents, which were split off, are encapsulated by the release agent and well filterable flakes are formed which flow into the filter bag (11) via a drainage pipe. The water that flows off can be supplied to the process- or wastewater system.

The fully automatic operation is controlled via the electronic unit. All necessary control and signal functions are integrated into this unit. The plant is started up through the enabling signal of the START sensor. The filling levels of the dosing device and the filter are monitored with capacitive sensors (12, 13).

10 Installation

For safe operation, the plant must only be operated and maintained in accordance with the indications in these operating instructions. In addition, the national and operational statutory provisions and safety regulations, as well as the accident prevention regulations required for the respective case of application, need to be observed during the employment. This applies accordingly when accessories are used.

Non-observance of the installation and operating instructions involves risks for persons, systems, and the environment.

As regards the electrical installation, observe all regulations in force (e.g. VDE 0100 / IEC 60364)

Electrical works must only be carried out by authorised and skilled personnel!

System performance tests, installation, setting and maintenance measures must only be carried out by authorised and skilled personnel. Only instructed personnel is authorised to carry out settings during the operation.

The dosage setting of the BEKOSPLIT® 11 must, as a matter of principle, only be implemented by authorised and skilled personnel.

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Check the outflowing cleaned water once a week by means of a reference turbidity!

Warning!

Unauthorised interventions!

Unauthorised interventions may endanger persons and plants and lead to malfunction.

Any modification of the plant or of the function parameters that has not been checked and approved by the manufacturer is potentially dangerous.

Measures:

- System performance tests, installation, setting and maintenance measures must only be carried out by authorised and skilled personnel.
- The dosage setting of the BEKOSPLIT® 11 must, as a matter of principle, only be implemented by authorised and skilled personnel.

Danger!

Filling-in inadmissible liquids!

Inadmissible liquids can lead to health hazards and poisoning.

The BEKOSPLIT® is only intended for condensate from compressed-air compressors. Other liquids can be aggressive, corrosive, caustic, toxic, or flammable, and contain fire-accelerating constituents. In addition, harmful gases may be released.

NOTE!

Ambient conditions!

In the event of external overheating, parts of the plant can be destroyed.

Observe the permissible storage and transport temperature, as well as the permissible operating and ambient temperature.

Protect the plant against direct sunlight and heat.

Do not install the plant in areas where frost is likely to occur or outdoors!

CAUTION!

Harmful hydrocarbons!

Harmful hydrocarbons may exist in the ductwork.

For example:

- Hydrocarbons and other particles which are toxic or dangerous to health in another manner.
- Particles which are contained in high-temperature gases.

Measures:

- As long as the process conditions are not absolutely safe, corresponding precautions, such as the use of a respiratory mask or the purging/detoxification of the ductwork, need to be taken prior to any intervention into the ductwork for maintenance or installation purposes.
- Ensure that the duct system is pressureless before any installation or dismantling works are carried out. In the event that you are not sure in some cases, please check with your local safety representative and/or read the local safety regulations.

CAUTION!

Release of dangerous substances!

The BEKOSPLIT® 11 must only be operated with condensate from compressed air that is free from aggressive, corrosive, caustic, toxic, flammable and fire-accelerating constituents.

CAUTION!

Flapping hoses!

Hoses which are not fixed and secured can make strong flapping movements in the event of compressed-air surges and can, therefore, lead to injuries.

DANGER!

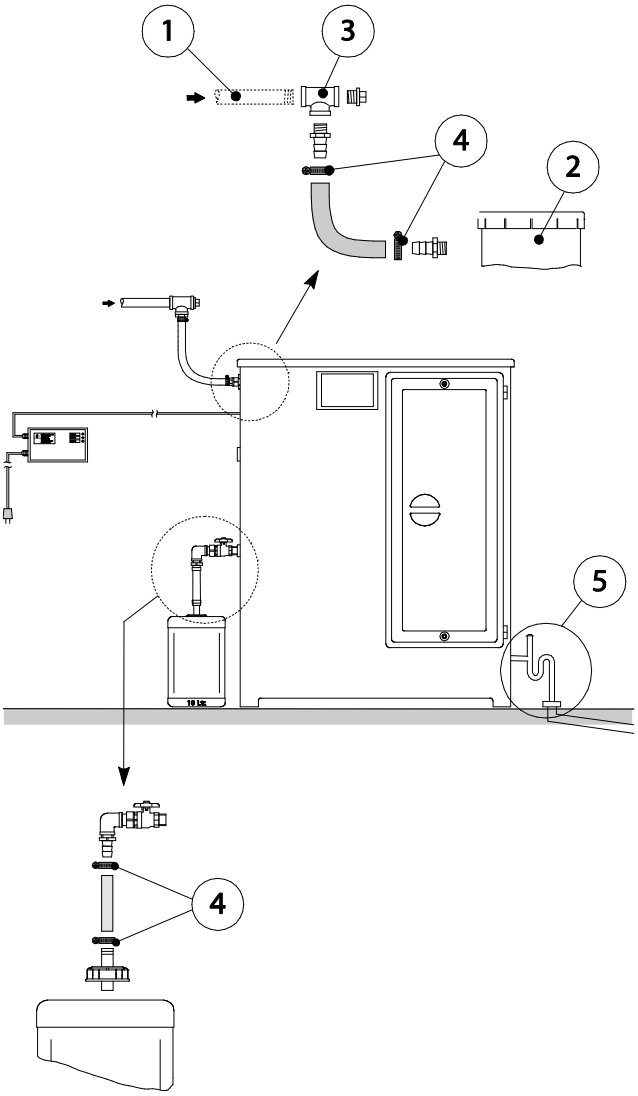
Compressed air!

Risk of serious injury or death through contact with quickly or suddenly escaping compressed air or through bursting plant components.

NOTE:

Do not feed condensate until the start-up was completed!

Hoses must always be fixed in such a manner that they do not make flapping movements and thereby lead to injuries and/or damage.



During the installation, the legal provisions need to be adhered to.

The following points need to be observed in particular:

- Move the BEKOSPLIT® 11 and the preseparation containers only when empty, and with suitable means of transportation (e.g. on pallets).
- The BEKOSPLIT® 11 is top-heavy. Watch for protruding parts.

Area of installation

- Do not install in places where frost is likely to occur or outdoors!
- Sealed floor area or collection basin! In the event of damage, untreated condensate or oil must not leak into the sewerage system or the soil!
- Install the BEKOSPLIT® 11 horizontally on an even, smooth floor.
- Tightly screw the oil receiver to the oil drain of the preseparation container using the included connection kit.

Inlet

- Install the condensate manifold > G1 with a slight downward slope to the preseparation container at the wall, use the T-piece as a branch, and connect with the condensate inlet of the pressure relief chamber via hose line. (Installation height of the line higher than the condensate inlet of the pressure relief). The lines must be secured against loosening, for example by means of hose clamps.
- Connect preseparation tank and BEKOSPLIT® 11 using the ½" hose supplied.

Outlet

- Fix the water drain hose at the water outlet of the BEKOSPLIT® 11, and supply to the wastewater connection with a constant slope. Use a siphon as an odour trap.

11 Electrical installation

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Check the outflowing cleaned water once a week by means of a reference turbidity!

DANGER!

Supply voltage!

The operation and maintenance of electrically-powered plants and devices must only be undertaken by correspondingly qualified and authorised personnel. Prior to carrying out maintenance works, no matter which type, the following notes must be considered:

Measures:

- Make sure that no parts of the plant are energised, and that they cannot be connected with the electric supply mains during servicing.
- The device must not be started up if the power lines are damaged.
- The BEKOSPLIT® 11 must not be operated if parts of the housing were removed.

DANGER!

Missing earth connection!

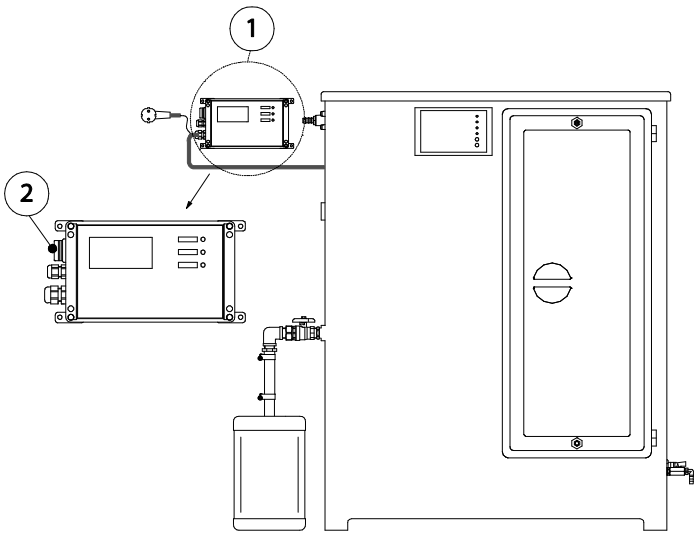
When the earth connection (protective earth) is missing, there is the risk in the event of malfunction, that contactable, conductive components my carry supply voltage. Touching of such parts leads to an electric shock with injury and death.

Measures:

- As regards the electrical installation, observe all regulations in force (e.g. VDE 0100 / IEC 60364).
- **Maintenance works must only be carried out when the system is de-energised.**
- **It is imperative to connect the plant and the device to earth or to connect the protective conductor according to the regulations.**
- Any electrical works must only be carried out by authorised and skilled personnel.

The BEKOSPLIT® 11 splitting plant is ready for connection. The supply voltage 100...240 VAC / 50-60 Hz is provided via a cable with a safety plug.

Internal components are supplied via a power supply unit with an output voltage of 24 VDC.



Installation power supply unit box

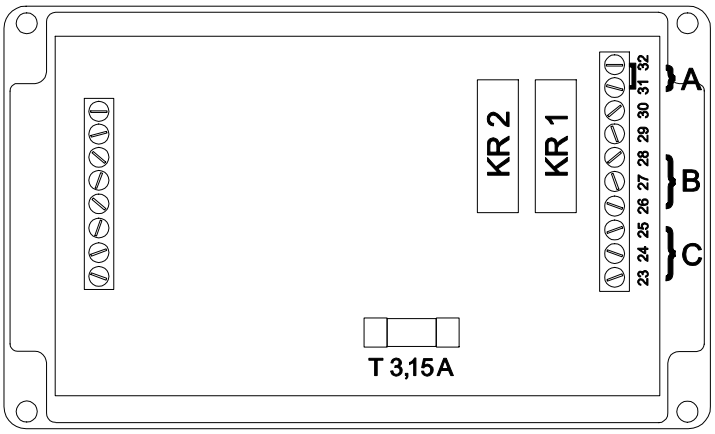
During the transport, the power supply unit box is in the splitting unit.

For the operation, the power supply unit box needs to be installed in such a manner that the power switch is visible and accessible.

To allow the complete disconnection from the network, the power plug must be visible and well accessible.

Carry out installation works, e.g. VDE 100 / IEC 60364.

For the start-up and during operation, the doors and covers need to be kept closed.



Signal connections BEKOSPLIT

See also Chapter "Terminal assignment".

For an external wiring, a STOP/AUTO input (A) is available.

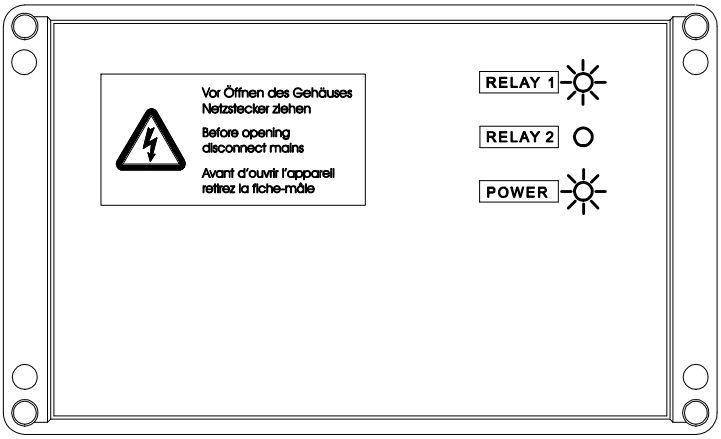
An external contact for the plant control can be connected to this input.

Close contact -> AUTO mode

Open contact -> STOP mode

Terminal 32: +24 Vdc across 6.8 kOhm

Terminal 31: 0 Vdc across 47 Ohm



Relay KR1 (B) trouble indication

Terminal 28: normally closed contact

Terminal 27: centre contact

Terminal 26: normally open contact

Via this potential-free contact, a trouble signal can be transmitted. The change-over contact is operated in the fail-safe mode.

If operating voltage is applied, and if the operation of the BEKOSPLIT is trouble-free, the KR1 relay will become operative. The contact (terminals 26-27) is closed.

If no operating voltage is applied, or if there is a trouble indication, relay KR1 will drop out. The contact (terminals 26-27) is open (fault).

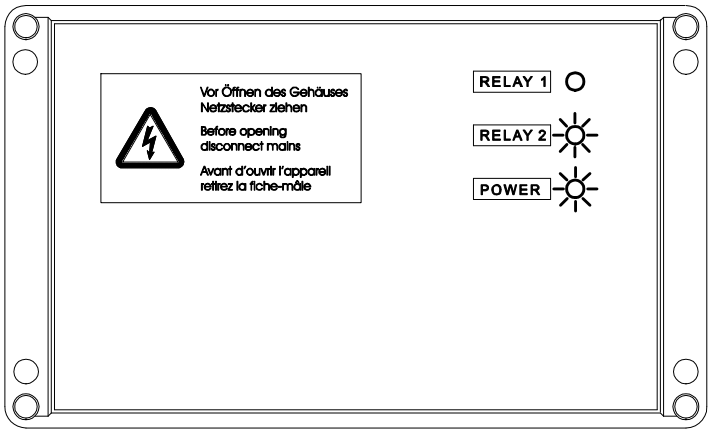
Relay KR2 (C) stand by

Terminal 25: normally closed contact

Terminal 24: centre contact

Terminal 23: normally open contact

If operating voltage is applied, and if the BEKOSPLIT is in standby in the AUTO mode (start sensor uncovered), the KR2



relay will become operative. The contact (terminals 23-24) is closed.

Without operating voltage, in the STOP mode or during functioning in the AUTO mode, relay KR2 will drop off. The contact (terminals 23-24) is open.

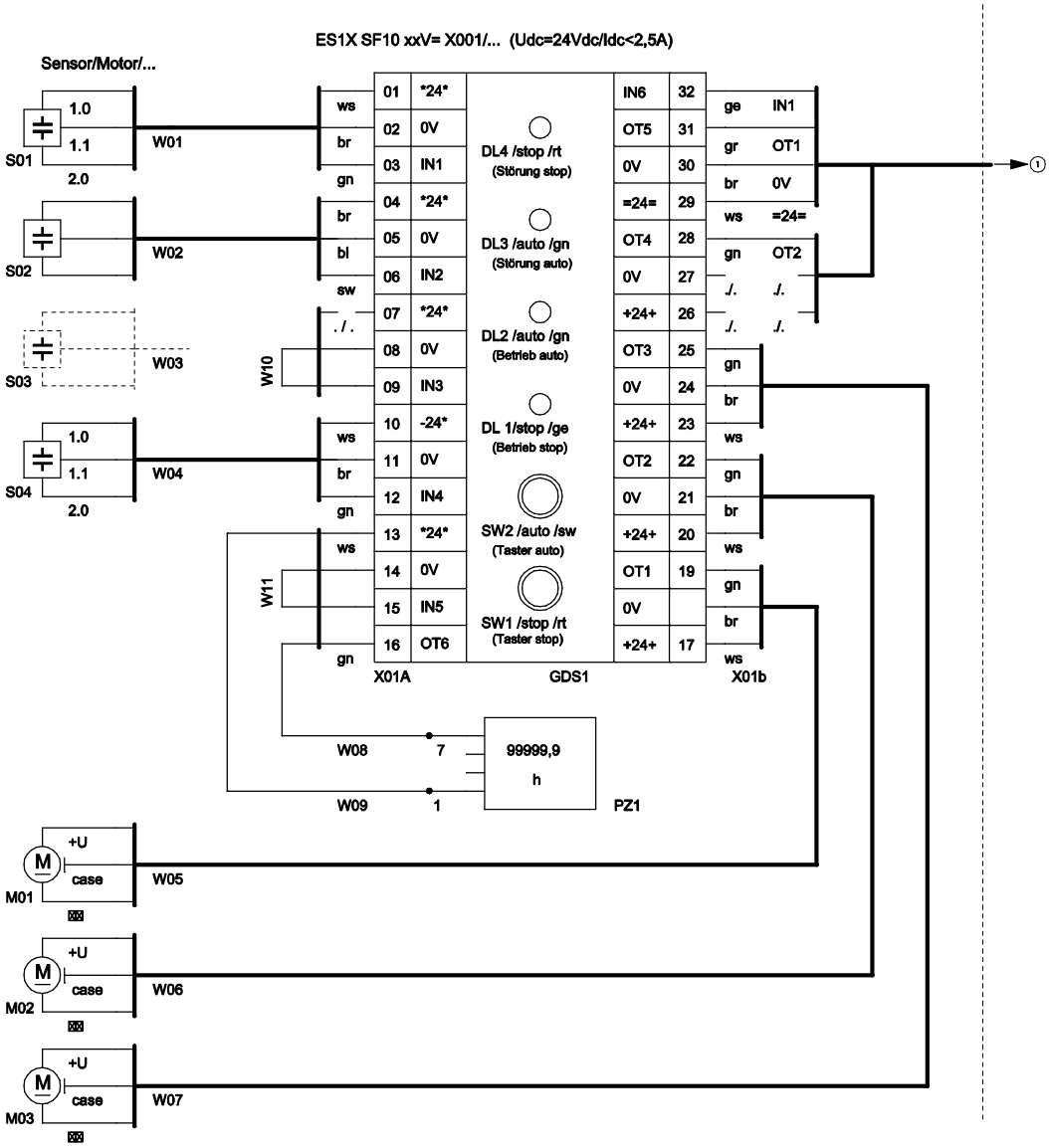
For installation, remove the protective caps of the front panel, unscrew the screws, and remove the cover of the housing.

Only a low voltage must be applied to the contacts of KR1 and KR2.

The relay contacts can optionally be used as normally closed or normally open contacts.

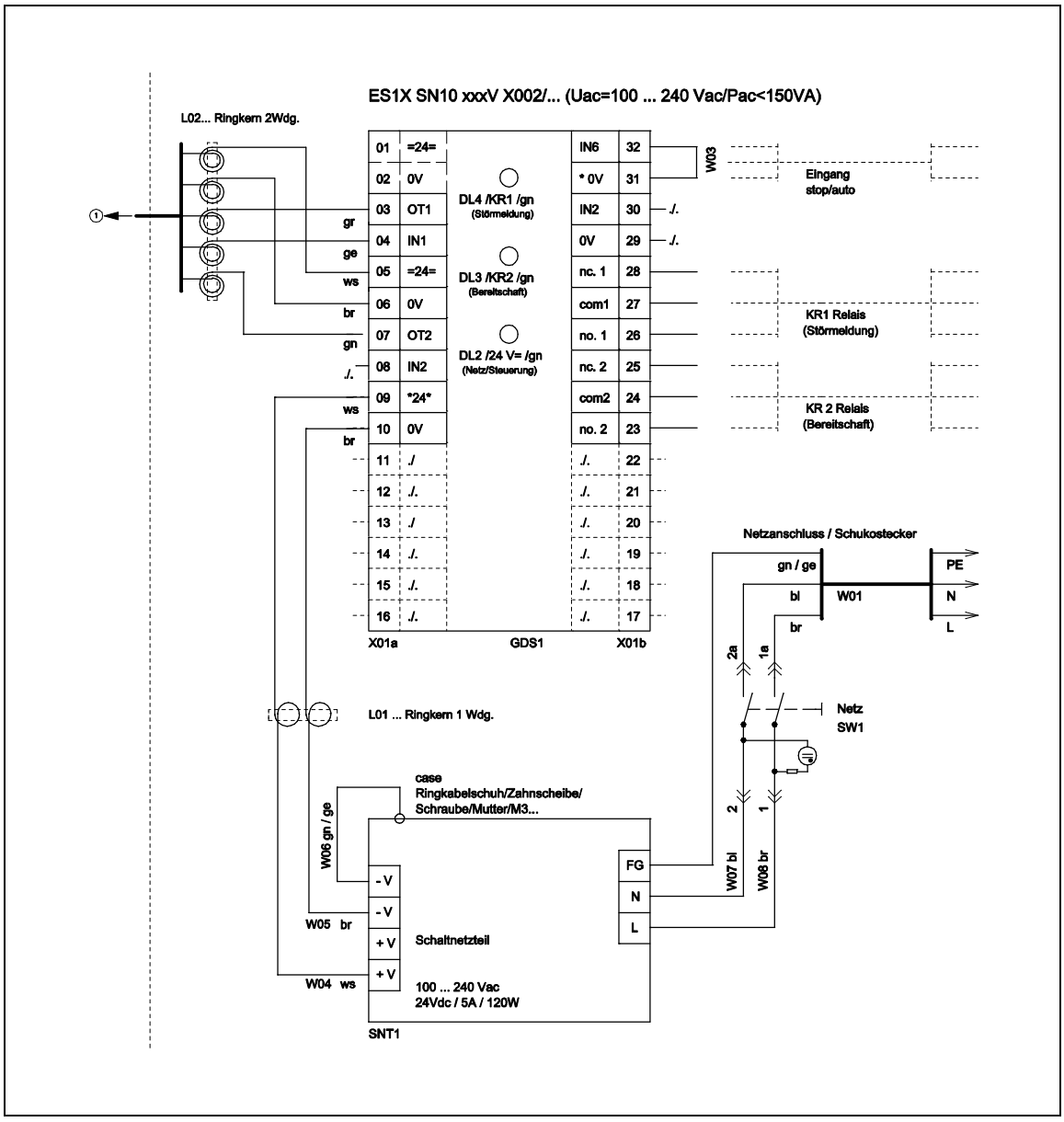
See also the chapter entitled "Terminal assignment".

When using the signal connections, sufficient clearance to the other parts of the unit carrying supply voltage, or suitable insulation must be ensured.



Unit power supply

S01:	Sensor filter bag fault	M01:	Pump motor
S02:	Metering unit sensor	M02:	Metering unit motor
S03:	Sensor filter bag maintenance	M03:	Stirrer motor
PZ1:	Counter for operating hours	bl:	blue
gn:	green	gn/ge	green/yellow
br:	brown	gr:	grey
ge:	yellow	ws:	white


ES1X SN10 xxxV X002/... (Uac=100 ... 240 Vac/Pac<150VA)
L02... Ringkern 2Wdg.
01 =24=
02 0V
03 OT1
04 IN1
05 =24=
06 0V
07 OT2
08 IN2
09 *24*
10 0V
11 ./
12 ./.
13 ./
14 ./.
15 ./.
16 ./.
DL4 /KR1 /gn
(Störmeldung)
DL3 /KR2 /gn
(Bereitschaft)
DL2 /24 V= /gn
(Netz/Steuerung)
IN6 32
* 0V 31
IN2 30
0V 29
nc. 1 28
com1 27
no. 1 26
nc. 2 25
com2 24
no. 2 23
./. 22
./. 21
./. 20
./. 19
./. 18
./. 17
X01a
GDS1
X01b
W03
Eingang
stop/auto
KR1 Relais
(Störmeldung)
KR 2 Relais
(Bereitschaft)
gr
ge
ws
br
gn
./.
ws
br
Netzanschluss / Schukostecker
gn / ge
bl
br
W01
PE
N
L
2a
1a
Netz
SW1
2
1
W07 bl
W08 br
L01 ... Ringkern 1 Wdg.
case
Ringkabelschuh/Zahnscheibe/
Schraube/Mutter/M3...
W06 gn / ge
W05 br
W04 ws
- V
- V
+ V
+ V
Schaltnetzteil
100 ... 240 Vac
24Vdc / 5A / 120W
SNT1
FG
N
L

12 Start-up

For safe operation, the plant must only be operated and maintained in accordance with the indications in these operating instructions. In addition, the national and operational statutory provisions and safety regulations, as well as the accident prevention regulations required for the respective case of application, need to be observed during the employment. This applies accordingly when accessories are used.

Non-observance of the installation and operating instructions involves risks for persons, systems, and the environment.

As regards the electrical installation, observe all regulations in force (e.g. VDE 0100 / IEC 60364)

Electrical works must only be carried out by authorised and skilled personnel!

The system must only be restarted when all covers and doors are closed.

System performance tests, installation, setting and maintenance measures must only be carried out by authorised and skilled personnel. Only instructed personnel is authorised to carry out settings during the operation.

The dosage setting of the BEKOSPLIT® 11 must, as a matter of principle, only be implemented by authorised and skilled personnel.

Use original BEKO TECHNOLOGIES reaction splitting agents and filter only! (Not included in the scope of delivery)

Check the outflowing cleaned water once a week by means of a reference turbidity!

Warning!

Unauthorised interventions!

Unauthorised interventions may endanger persons and plants and lead to malfunction.

Any modification of the plant or of the function parameters that has not been checked and approved by the manufacturer is potentially dangerous.

Measures:

- System performance tests, installation, setting and maintenance measures must only be carried out by authorised and skilled personnel.
- The dosage setting of the BEKOSPLIT® 11 must, as a matter of principle, only be implemented by authorised and skilled personnel.

WARNING!

Dust explosion through splitting agents!

Dispersed dust particles of the splitting agents can form explosive mixtures which, in the event of ignition, can lead to severe injury and death.

CAUTION!

Filling-in inadmissible liquids!

Inadmissible liquids can lead to health hazards and poisoning.

The BEKOSPLIT® 11is only intended for condensate from compressed-air compressors. Other liquids can be aggressive, corrosive, caustic, toxic, or flammable, and contain fire-accelerating constituents. In addition, harmful gases may be released.

CAUTION!

Harmful hydrocarbons!

Harmful hydrocarbons may exist in the ductwork.

For example:

- Hydrocarbons and other particles which are toxic or dangerous to health in another manner.
- Particles which are contained in high-temperature gases.

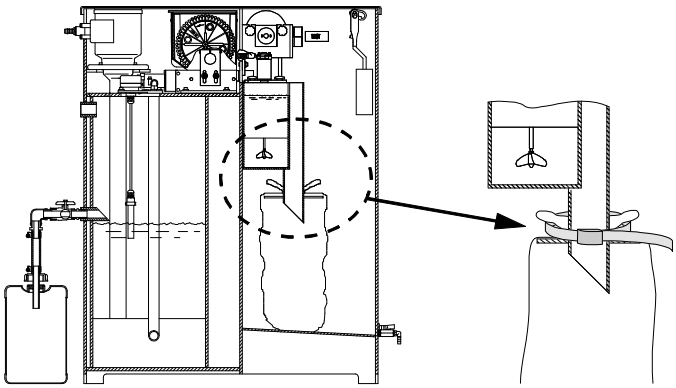
Measures:

- As long as the process conditions are not absolutely safe, corresponding precautions, such as the use of a respiratory mask or the purging/detoxification of the ductwork, need to be taken prior to any intervention into the ductwork for maintenance or installation purposes.
- Ensure that the duct system is pressureless before any installation or dismantling works are carried out. In the event that you are not sure in some cases, please check with your local safety representative and/or read the local safety regulations.

CAUTION!

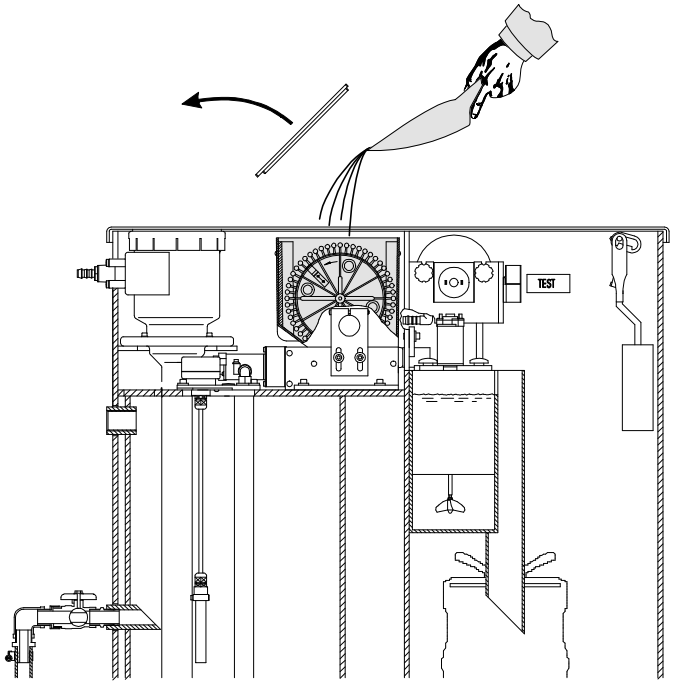
Release of dangerous substances!

The BEKOSPLIT® 11 must only be operated with condensate from compressed air that is free from aggressive, corrosive, caustic, toxic, flammable and fire-accelerating constituents.



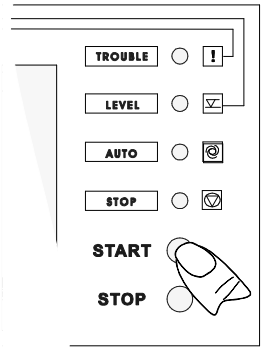
1. Inserting the filter bag

Fix the filter bag at the filter bag mount using a tension belt. The tension belt must always have a good and tight seat. If this is not the case, the filter bag may detach itself and filter cake will emerge.



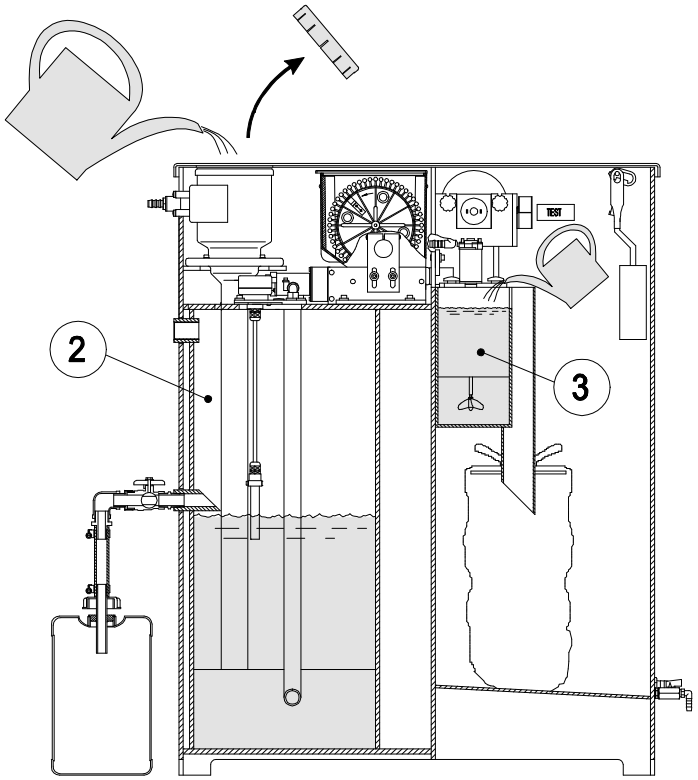
2. Filling-in the reaction release agent

Fill the reaction release agent into the storage reservoir of the dosing device using the enclosed shovel.



3. Voltage supply

- Connect the voltage supply.
- Switch the main switch at the power supply unit box to "ON".
- Press the START button on the display.
- The BEKOSPLIT emulsion splitting plant is in automatic mode.



4. Filling reactor

- Fill the reactor (1) of the BEKOSPLIT splitting plant with tap water until it spills into the discharge channel.
- Stop the water supply.

5. Filling the preseparation container

- Fill the preseparation container (2) with tap water via the pressure relief chamber.
- As soon as the liquid level reaches the START sensor, the agitator of the BEKOSPLIT will start.
- Stop the water supply.

The operating level of the preseparation container is reached. (START sensor of the preseparation container is covered).

6. The BEKOSPLIT is serviceable, and emulsion can now be supplied via the pressure relief chamber of the preseparation container.

13 Operation

Warning!

Unauthorised interventions!

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Measures:

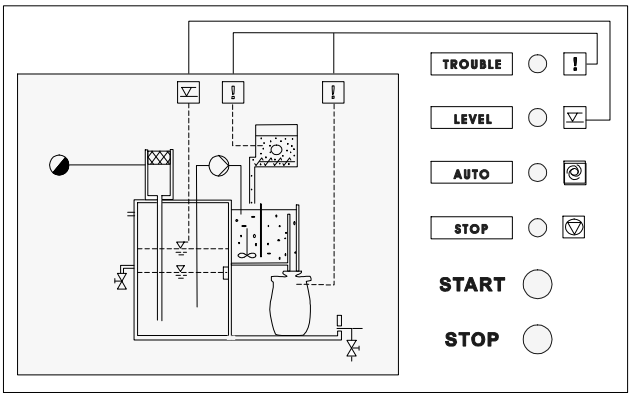
- System performance tests, installation, setting and maintenance measures must only be carried out by authorised and skilled personnel.
- The dosage setting of the BEKOSPLIT® 11 must, as a matter of principle, only be implemented by authorised and skilled personnel.

CAUTION!

Filling-in inadmissible liquids!

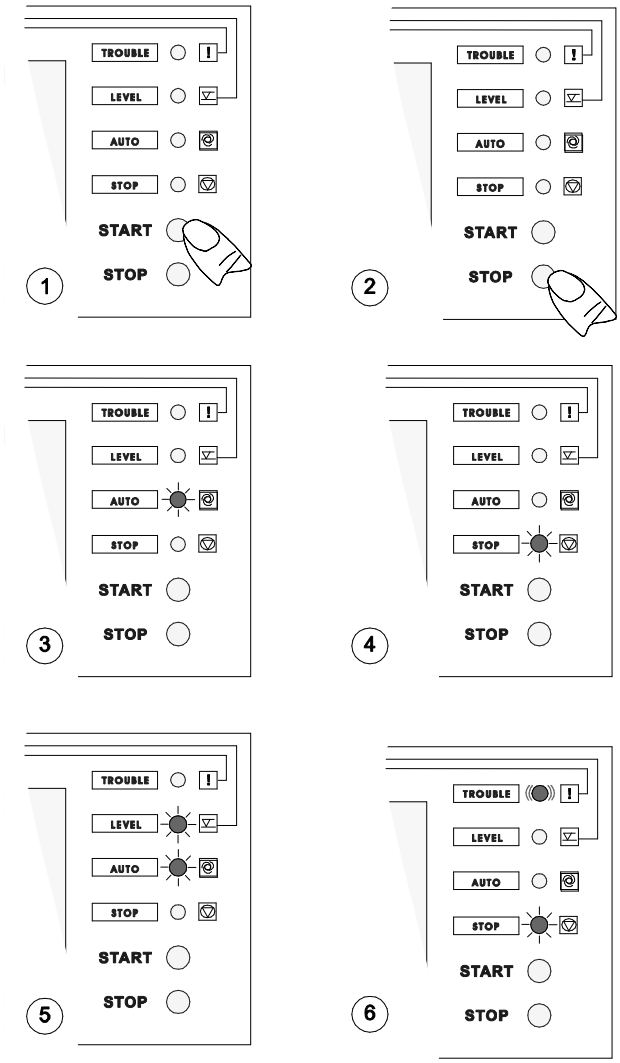
Inadmissible liquids can lead to health hazards and poisoning.

The BEKOSPLIT® 11is only intended for condensate from compressed-air compressors. Other liquids can be aggressive, corrosive, caustic, toxic, or flammable, and contain fire-accelerating constituents. In addition, harmful gases may be released.



Operation on the display

- Operation of the splitting unit is controlled at the front display.
- Besides the indication LEDs, the display also includes the button functions for the "START" or "STOP" of the splitting unit.



1. START button

- Switching-on the splitting unit

2. STOP button

- Switching-off the splitting unit
- Acknowledgement of trouble indications

3. AUTOMATIC mode

- The splitting unit is serviceable or is in processing operation

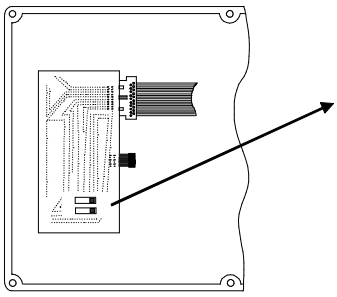
4. STOP mode

5. Enhanced filling level

- START sensor covered for more than 1,800 s

6. Trouble indication

- Container reaction release agent empty
- Filter filled



DIP-Schalter / Dipp switch		+
Beispiel 1 example 1	Beispiel 2 example 2	
ON 1 1 ON	1 0 1 0	0 sec (werkseitig)
ON 1 1 ON	1 0 1 0	0,25 sec
ON 1 1 ON	1 0 1 0	0,50 sec
ON 1 1 ON	1 0 1 0	0,75 sec

Dosage setting

- The splitting unit is delivered with a preset dosage. This dosage is adjusted of the wastewater to be treated.
- On the inside of the control housing cover the preset dosage can be increased via a DIP switch.

14 Control and maintenance

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Harmful hydrocarbons!

Harmful hydrocarbons may exist in the ductwork.

For example:

- Hydrocarbons and other particles which are toxic or dangerous to health in another manner.
- Particles which are contained in high-temperature gases.

Measures:

- As long as the process conditions are not absolutely safe, corresponding precautions, such as the use of a respiratory mask or the purging/detoxification of the ductwork, need to be taken prior to any intervention into the ductwork for maintenance or installation purposes.
- Ensure that the duct system is pressureless before any installation or dismantling works are carried out. In the event that you are not sure in some cases, please check with your local safety representative and/or read the local safety regulations.

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Release of dangerous substances!

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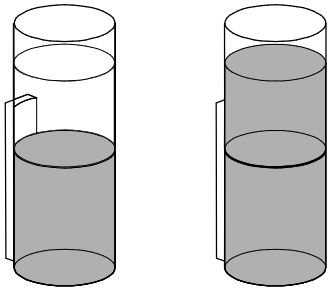
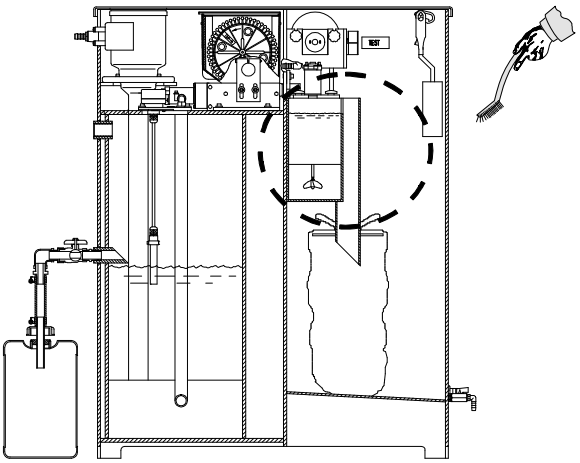


Turbidity check of the wastewater

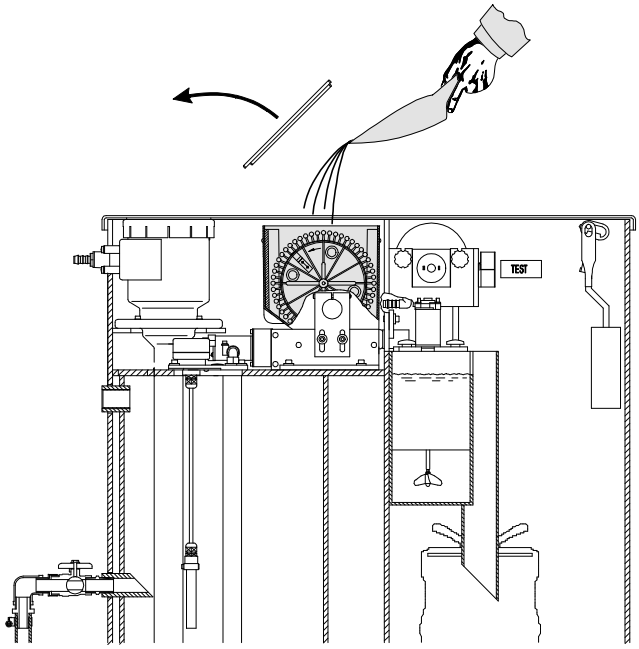
To check the degree of turbidity, a wastewater sample is taken at the test valve, filled into the test tube, and is visually compared with the reference turbidity. If the turbidity equals or is stronger than the reference, please contact our service department.



Cleaning measures

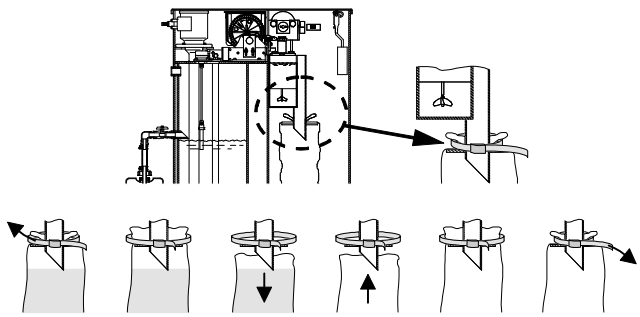
Components, such as the reactor wall, the sensor, the agitator shaft and the spillway pipe, which come into contact with reaction release agent flakes, must be checked weekly and cleaned with water. (Do not use rinsing agents and cleaners!)

The cleaning of electrical devices is to be effected using a slightly damp cloth.



Filling-in the reaction release agent

Fill the reaction release agent into the storage reservoir of the dosing device using the enclosed shovel.



Replacement of the filter bag

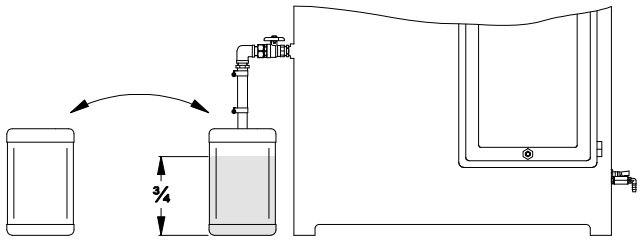
Detach the tension belt and remove the filter.

Put the new filter bag over the inlet extension, attach the tension belt and then tighten it. The tension belt must have a tight seat. If this is not the case, the filter bag may detach itself and filter cake will emerge.

Dispose of the accumulated filter cake:

European waste disposal key: EWC 070610

Note: the wet weight is significantly higher than the dry weight. It is recommended to use a suitable means of transportation.



Emptying the oil receiver

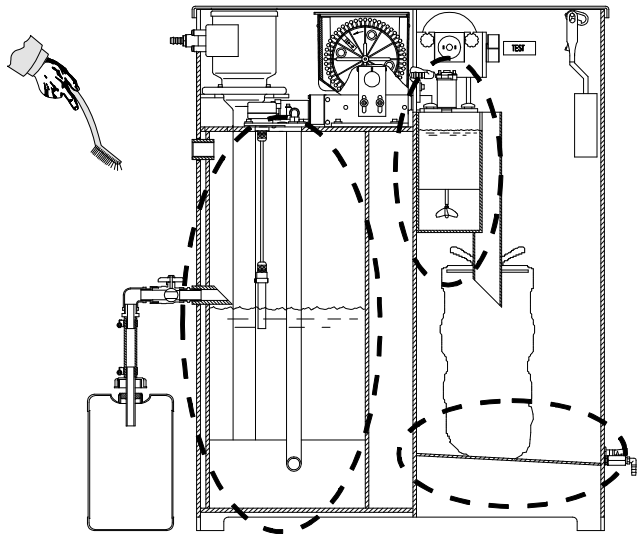
Replace the oil receiver by an empty receiver when the receiver is three quarters full.

Dispose of the accumulated oil as used oil:

European waste disposal key:

EWC 13 02 05 (mineral oils)

EWC 13 02 06 (synthetic oils)



Basic cleaning

Depending on the dirt accumulation from the ductwork of the compressor system, a bi-annual basic cleaning may be necessary.

- Cleaning of the preseparation container
- Cleaning of the reaction basin
- Cleaning of the clear-water basin

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15 Fault elimination

For safe operation, the plant must only be operated and maintained in accordance with the indications in these operating instructions. In addition, the national and operational statutory provisions and safety regulations, as well as the accident prevention regulations required for the respective case of application, need to be observed during the employment. This applies accordingly when accessories are used.

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Fault elimination

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Release of dangerous substances!

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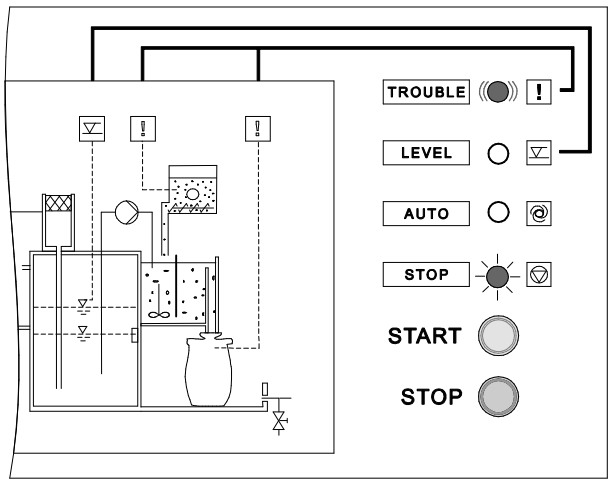
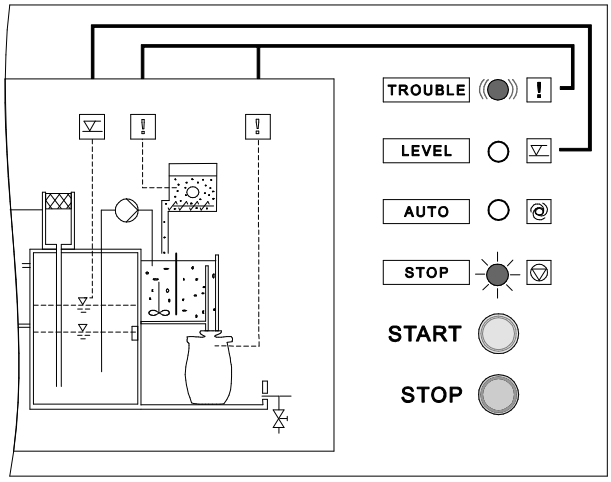


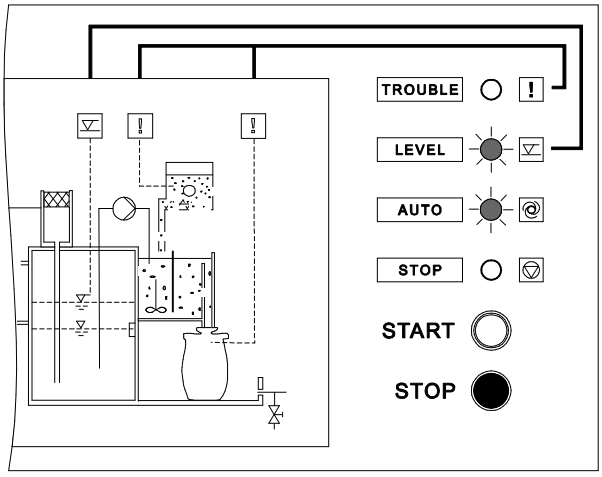
Filter volume exhausted

- Acknowledge the fault signal with the STOP button on the front display
- Allow the filter bag to drain and replace it
  (see Chapter "Changing filter bag")
- Press the START button to switch the plant to "AUTOMATIC"



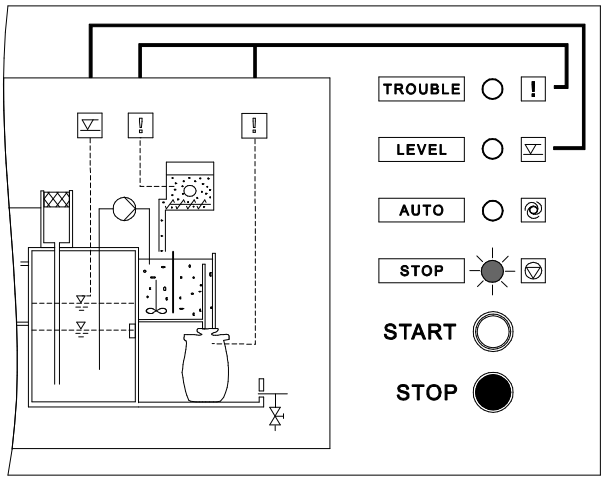
Reaction release agent container empty

- Acknowledge the fault signal with the STOP button on the front display
- Refill the reaction release agent (see Chapter "Check and maintenance")
- Press the START button to switch the plant to "AUTOMATIC"



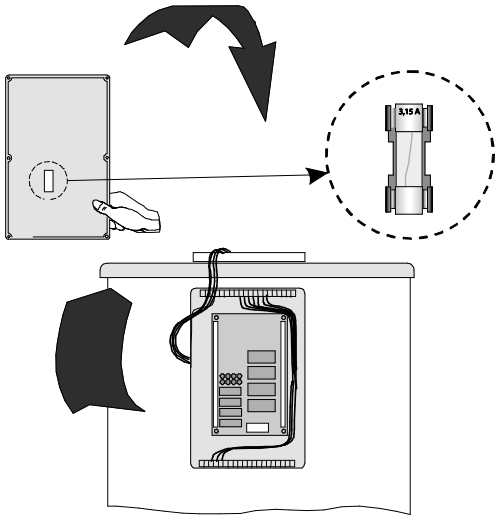
START sensor in the pre-separation container is covered for more than 1,800 seconds

- Check the inflow and throttle down, if necessary
- Check the hose pump of the splitting unit for tightness/function
- Message goes out automatically after fault clearance



The plant is in the STOP mode (e.g. after power outage or actuation of the STOP button)

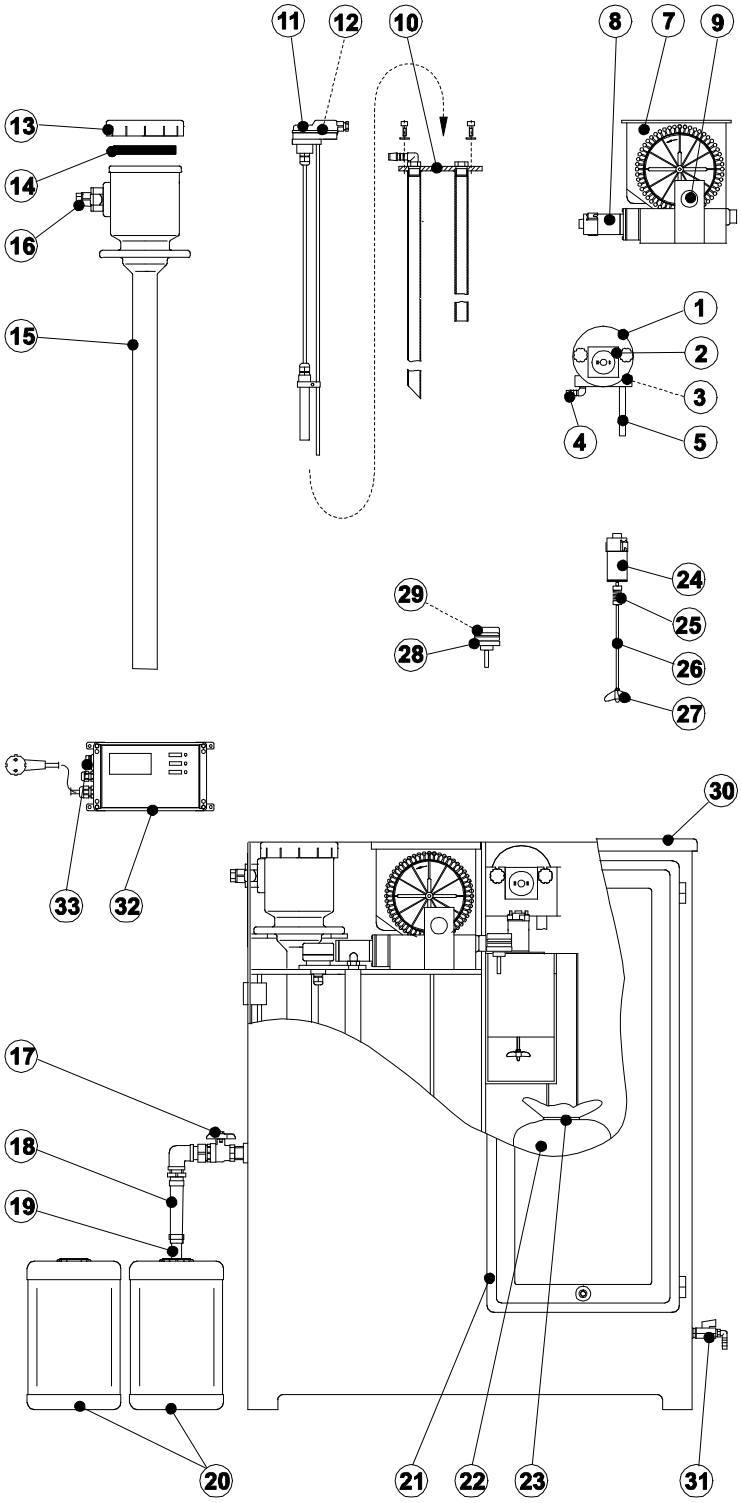
- Press the START button to switch the plant to "AUTOMATIC"



No LED is lit, although operating voltage is applied to the power unit

- Check the connection cable between the power unit and the plant control at the front
- Check the plug-in connector of the connecting cable at the plant control
- Check/replace the fuse of the power unit as follows:
  1. Unscrew the screws of the housing cover
  2. Remove the housing cover and place it on the BEKOSPLIT® 11
  3. Replace the fuse with a fuse of the same type and nominal capacity (see technical data)

16 Elements and components



1 Emulsion pump head
2 Geared motor of the emulsion pump
3 Pump hose
4 Angle nozzle
5 Infeed tube
6 Carbon brushes (not shown)
7 Dosing unit
8 Geared motor for the dosing unit
9 Sensor reaction release agent
10 Tank console
11 START sensor
12 Sensor printed circuit board START sensor
13 Cap
14 Filter mat
15 Pressure relief chamber
16 Connection adapter
17 Ball valve
18 Hose
19 Inlet connection
20 Oil receiver
21 Door
22 Filter bag
23 Retaining strap for filter
24 Agitator motor
25 Coupling
26 Agitator shaft
27 Agitator blade
28 Sensor filter monitoring
29 Sensor printed circuit board
30 Cover
31 Sampling valve/test valve
32 Power supply unit box
33 Main switch

17 Wearing parts

Order no.	Contents	Designation
2800527	3, 4, 5	Pump hose set
2000389	6	Carbon brushes set

18 Spare parts

Order no.	Contents	Designation
2002621	1, 2, 3, 4, 5	Emulsion pump
2002623	2	Geared motor for emulsion pump
2002619	7, 8	Dosing unit, complete
2002622	8	Geared motor for dosing unit
2000391	9	Sensor reaction release agent
2000108	28	Sensor filter monitoring
4004276	29	Sensor printed circuit board filter monitoring
2002624	24, 25, 26, 27	Agitator, complete
2002625	24	Agitator motor
2002626	25, 26, 27	Agitator shaft
4000861	21	Door unit, complete
4000864	30	Cover, complete
2800495	23	Retaining strap for filter bag
20002627	33	Power supply unit box
4000864	Not shown	Operating hour meter
4002521	Not shown	Control unit
4006830	13, 14, 15	Pressure relief chamber
2800866	13, 14	Filter set for pressure relief chamber
2001046	16	Connection adapter
2000012	11	START sensor, complete (without cable)
2000649	12	Sensor printed circuit board START sensor
4000874	18, 19, 20	Oil receiver set
2000380	20	Oil receiver
2002859	10	Tank console

19 Accessories

Order no.	Designation
2000233	Overflow set
2002628	Drying rack for filters
4011185	Collecting basin in accordance with WRA, 205 litres

20 Dismantling and disposal of the plant

By disassembling the BEKOSPLIT® 11 all machine and operating parts must be disconnected and especially disposed.

Component Werkstoff / Medium

Filter bag	EWC 05 01 15
Filter cake	EWC 07 06 10
Oil collector	EWC 13 02 05 mineral oil
	EWC 13 02 06 synthetic oil
Electronic	EWC 20 01 35
Splitting agent	see Safety datasheet of splitting agent
Housing	PP
Door	PS
Lid	PS

Please note the regulations for the disposal of each type of raw and operating material.

21 National technical approval

allgemeine bauaufsichtliche Zulassung
Deutsches Institut für Bautechnik, Berlin

Zulassungs-Nummer Z-83.2-2

The BEKOSPLIT was approved by the Institut für Bautechnik DIBt (Center of Competence in Civil Engineering), Berlin, Germany, for the treatment of emulsion-containing compressor condensate. An authorisation procedure is not required for operation. It will suffice to register the BEKOSPLIT installation with the regional surveillance authority.
Local regulations regarding the set-up and operation may deviate from the individual points of these instructions; please obtain detailed information from the relevant authority!

22 Declaration of conformity

BEKO TECHNOLOGIES GMBH
41468 Neuss, GERMANY
Tel: +49 2131 988-0
www.beko.de

EG-Konformitätserklärung

Wir erklären hiermit, dass die nachfolgend bezeichneten Produkte den Anforderungen der einschlägigen Richtlinien und technischen Normen entsprechen. Diese Erklärung bezieht sich nur auf die Produkte in dem Zustand, in dem sie von uns in Verkehr gebracht wurden. Nicht vom Hersteller angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt.

Produktbezeichnung:	Emulsion-Spaltanlage
Modelle:	**BEKOSPLIT 11 / 12 / 13 / 14 / 14S / 15 / 16**
Spannungsvarianten:	BEKOSPLIT 11: AC100V – AC240V ±10%, 50 – 60Hz BEKOSPLIT 12 – 16: AC100V, AC110V, AC200V, AC230V ±10%, 50 – 60Hz
Produktbeschreibung und Funktion:	Anlage zum Aufbereiten von emulgiertem Kompressorenkondensat.

Maschinen-Richtlinie 2006/42/EG

Angewandte Normen:	EN 60204-1:2006 + A1:2009 + AC:2010 EN ISO 14121:2007
Name des Dokumentationsbevollmächtigten:	Herbert Schlensker

Niederspannungs-Richtlinie 2006/95/EG

Angewandte Normen:	EN 61010-1:2001 + AC1:2002 EN 60204-1:2006 + A1:2009 + AC:2010	
Anbringungsjahr der CE-Kennzeichnung:	BEKOSPLIT 11:	00
	BEKOSPLIT 12 / 13 / 14:	95
	BEKOSPLIT 14S:	01
	BEKOSPLIT 15 / 16:	03

EMV-Richtlinie 2004/108/EG

Angewandte Normen:	EN 55014-1:2006 EN 61000-3-2:2006 EN 61000-3-3:1995 + A1:2001 + A2:2005 EN 55014-2:1997 + A1:2001 + A2:2008 Category II

Neuss, 11.10.2013

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EC Declaration of Conformity

We hereby declare that the products indicated hereafter comply with the stipulations of the relevant directives and technical standards. This declaration only refers to products in the condition in which they have been placed into circulation. Parts which have not been installed by the manufacturer and/or modifications which have been implemented subsequently remain unconsidered.

Product designation:	Emulsion splitting plant
Models:	BEKOSPLIT 11 / 12 / 13 / 14 / 14S / 15 / 16
Voltage options:	BEKOSPLIT 11: AC100V – AC240V ±10%, 50 – 60Hz BEKOSPLIT 12-16: AC100V, AC110V, AC115V, AC200V, AC230V ±10%, 50 – 60Hz
Product description and function:	System for the processing of emulsified compressor condensate.

Machinery Directive 2006/42/EC

Standards applied:	EN 60204-1:2006 + A1:2009 + AC:2010 EN ISO 14121:2007
Name of the person authorised to compile the technical documentation:	Herbert Schlensker

Low-Voltage Directive 2006/95/EC

Standards applied:	EN 61010-1:2001 + AC1:2002 EN 60204-1:2006 + A1:2009 + AC:2010	
Year of CE labelling:	BEKOSPLIT 11:	00
	BEKOSPLIT 12 / 13 / 14:	95
	BEKOSPLIT 14S:	01
	BEKOSPLIT 15 / 16:	03

EMC Directive 2004/108/EC

Standards applied:	EN 55014-1:2006 EN 61000-3-2:2006 EN 61000-3-3:1995 + A1:2001 + A2:2005 EN 55014-2:1997 + A1:2001 + A2:2008 Category II

Neuss, 23 August 2011

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Original instructions are in German.
Subject to technical modifications without notice / errors excepted.
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